1. What is an orthogonal matrix?

2. What is Schur factorization? Is it unique?

3. CAR: Chapter 4: p.1-7: 2,4.

4. Complex space: inner product, adjoint, self-adjoint matrix, unitary matrix.

5. Describe the set of unit vectors orthogonal to $(1,0)^T$ in $\mathbb{C}^2$.

6. CAR: Chapter 4: p.1-12: 7,9.

7. Describe the Householder reflection method in a real space. What is the geometric meaning of the transformation?

8. What is a good choice for Householder reflection?

9. Describe the Householder reflection method in a complex space. What is the main difference?

10. QR factorization via Householder reflections.

11. CAR: Chapter 4: p.1-22: 5.